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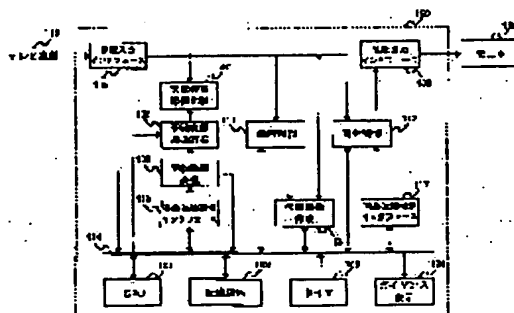
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(54) PICTURE RECORDING/REPRODUCING DEVICE

(57)Abstract:

PROBLEM TO BE SOLVED: To easily specify and reconfirm a reservation image and to reduce the load for image coincidence comparison processing by converting an input image in a program being broadcast to information for indicating the features of the image, comparing it with information for indicating the features of the image to be reserved, and storing and displaying the features of the image to be reserved when they coincide.

SOLUTION: An image is converted into a reservation image feature dictionary for indicating the features of the image by a reservation image conversion means 109 and then is stored at a storage medium 102 temporarily or is used for comparison with a program input image. A program input image being broadcast is converted into an input image feature dictionary information for indicating the features of the image by an image feature dictionary comparison means 107, and is compared with a reservation image feature dictionary that is the output of a conversion means 109. If they coincide each other, a guidance for urging user information input is displayed on a guidance display means 104. Therefore, for example, when the first broadcast program of a continuous drama or the like is recorded, the attached information can be easily referred to at the succeeding reservation recording/reproduction.



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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention relates to the equipment which is applied to the equipment which records on videotape and reproduces an image, especially carries out reservation automatic image transcription or reservation automatic playback by the comparison with the arbitration image specified by a user, and the receiving image of television broadcasting, and its control approach.

[0002]

[Description of the Prior Art] Reproducing an image [finishing / JP,5-56362,A / an image transcription / as an example of the conventional technique about the reservation automatic image transcription by the coincidence comparison of an image], the scene which wishes image transcription initiation is found, this is registered as a reservation image, and the approach of starting an image transcription from the time of comparing the reservation image and receiving image of television broadcasting, and being in agreement is indicated.

[0003] Moreover, the image of several sheets of the initiation part of a program and a termination part to carry out image transcription reservation beforehand is registered into JP,5-56386,A, and the method of carrying out both image transcription initiation and image transcription termination by the coincidence comparison of an image is indicated.

[0004] On the other hand, about reservation automatic playback, there is no publication of an example especially with the conventional technique of the two above-mentioned affairs.

[0005]

[Problem(s) to be Solved by the Invention] In order to have to find out the target scene by the approach shown in the aforementioned Prior art, reproducing the program recorded on videotape once and making full use of actuation of a rapid traverse, rewinding, in order to register the reservation image of image transcription initiation first, for the user who does not understand well the contents recorded on videotape, the technical problem that there is a possibility of giving a troublesome impression occurs. Moreover, once it registers a reservation image, since a user is visually stored in the internal memory which cannot be referred to, the reservation image has the technical problem that reconfirmation of a reservation image cannot be performed afterwards.

[0006] Furthermore, in the coincidence comparison with an image transcription reservation image and the receiving image of television broadcasting, it must compare about the full screen and all the pixels of a program screen, and the technical problem that the load of signal processing becomes heavy (or the configuration scale of hardware becomes large) occurs. Furthermore, the conventional technique has the unsolved correspondence at the time of the reserved image actually not appearing.

[0007] The actuation interface which the purpose of this invention has in solving the above-mentioned technical problem, and can carry out easily assignment and reconfirmation of the reservation image for which it wishes, With information, such as broadcast time of the program for which offers the practice which can reduce the processing loads in the coincidence comparison of an image sharply, and it wishes further, a day of the week, and a channel It is offering the image transcription regenerative apparatus which can start an image transcription or playback from the time of the image of the same scene as the reserved image flowing by registering the image of the time-of-day margin to the start time and end time of a program, and the part of the arbitration of the program already recorded on videotape as reservation information.

[0008]

[Means for Solving the Problem] The image input interface containing TV tuner for the image transcription regenerative apparatus of this invention to input the input signal of television broadcasting, The video output interface connected to TV monitor etc., and the image transcription control means which controls image transcription initiation of the program of television broadcasting, termination, etc., A representation image creation means to create a list of the representation image which consists of a set of the change of the image cut to the image transcription and coincidence of a program, The playback control means which controls playback of the program which television broadcasting reproduced or recorded on videotape, The playback tab-control-specification interface for determining the playback location of an image transcription image visually using a representation image list, The program reservation interface which reserves the image transcription of a program, reproductive initiation, and termination according to information, such as a date specified by a user, time amount, a channel, and a reservation image, A reservation image conversion means to change the image of a certain predetermined time length which specified for the timed recording using an image of a user into the information which expresses the description of an image using a predetermined approach, Changing the input image of the program by which current televising is carried out into the information which expresses the description of an image to real time using a predetermined approach The image description dictionary comparison means about which CPU is told when both sides are in agreement and do as compared with the information showing the description of the aforementioned reservation image, The reservation image description information storage means for storing temporarily the information which shows the description of a reservation image, It constitutes from an are recording means to record the reservation information on the image recorded on videotape, the adjunctive information relevant to it and a representation image, an image transcription, or playback, the reservation image description dictionary, etc., a guidance display means for displaying the actuation screen of these equipments, such as a representation image list display, and a CPU that controls these whole.

[0009]

[Embodiment of the Invention] Drawing 1 is drawing showing the configuration of the image transcription regenerative apparatus 100 of this invention. The image input interface 105 is a means for incorporating the image of a program to this equipment including TV tuner for inputting the receiving image (voice being included) of television broadcasting 115. The image transcription control means 111 controls image transcription initiation of a program, termination, etc. The playback control means 112 controls playback of the program which the program under broadcast reproduced or recorded on videotape. A playback image is outputted to the monitor 116 grade connected to this equipment through the video output interface 106. The representation image creation means 113 creates the representation image management information for managing into a group two or more representation images and them which consist of a set of the change of the image cut to the image transcription and coincidence of a program for every program.

[0010] The created representation image is effective in being easy to grasp the contents of a program recorded on videotape by indicating by list. The playback tab-control-specification interface 117 is a means for determining a time playback location visually by choosing one of the displayed representation images at the time of playback by associating each representation image and the playback starting position of a program.

[0011] A user inputs or chooses information, such as the date, time amount, a channel, and a reservation image, and the program reservation (image selection) interface 110 reserves the image transcription of a program, reproductive initiation, and termination. When carrying out the automatic image transcription and automatic playback which used especially the reservation image, a list of the representation image of the program recorded on videotape is displayed, and a user is made to choose one representation image of the arbitration in it. The reservation image conversion means 109 changes the image of a certain fixed time amount length into the information (the reservation image description dictionary is called hereafter) which expresses the description of an image using a predetermined approach from the playback location of a representation image specified for the timed recording whose user used the image.

[0012] The reservation image description dictionary 108 after conversion is once saved according to

conditions, such as reservation time amount, at a storage 102, or is immediately used for the comparison with the input image of a program. It judges whether current time reached at reservation time of day under supervising a timer 103. Changing the input image of the program by which current televising is carried out into the information (following and input image description dictionary) which expresses the description of an image to real time using a predetermined approach, as compared with the aforementioned reservation image description dictionary 109, the image description dictionary comparison means 107 notifies to CPU101 that the image was in agreement, when both sides judge that it is equal. A storage 102 does not save the reservation information on the image recorded on videotape, the adjunctive information relevant to it and a representation image, an image transcription, or playback, and reservation image description dictionary 102 grade, and does not ask especially the class of storage.

[0013] The guidance display means 104 is used for the guidance display in the case of demanding an informational input from a user in the cases, such as a control panel display at the time of playback, a list display of a representation image, or image transcription reservation. Although input devices, such as a keyboard, a mouse, a tablet, and a touch panel, can be used for a means by which a user inputs information to this equipment although not illustrated and it does not limit especially the class, by the following explanation, the keyboard and the mouse shall be used for it as an input device. CPU101 is used in order to control each means to constitute this equipment.

[0014] Drawing 2 (a) is drawing showing the image reservation screen 200 for a user to specify the image used as the comparison dictionary of image timed recording or image reservation playback. This screen is displayed on a guidance display means. A list of the representation image of the program already recorded on videotape is used for specification of the image used as a dictionary. A representation image captures the image of the scene of the change of the image cut to the image transcription and coincidence of a program. By arranging these representation images 203 in time series in the representation image display frame 202 with the time of day 204 (the time of day from the head of the program recorded on videotape being sufficient) which captured the image, a user can grasp the near contents of the program currently recorded on videotape in an instant.

[0015] The number of the representation images arranged in on a screen should be taken into consideration with the size and resolution of a guidance display means. However, since especially the resolution of each representation image itself does not need to be quality, if it is about 5x3 arrays as shown, for example in drawing 2 (a), there will be no problem on use in general at the display device of every type.

[0016] When the number of the representation images 203 is not settled in the representation image display frame 202, by operating the advance carbon button 208 and retreat carbon button 207 grade, the representation image display frame 202 is slid virtually, and the representation image to display is changed.

[0017] Assignment of a reservation image specifies one out of the representation image currently displayed on the screen. The appointed approach should just push the representation image of arbitration directly with a mouse. A user is told about the selected representation image 209 having been temporarily chosen with the means of a foreground color changing.

[0018] In order to register the selected representation image 209 as a reservation image, the definite carbon button 205 is operated. The reservation image description dictionary 108 creates the information which expresses the description of the image of a certain fixed time amount length from the scene registered with the definite carbon button 205. In order to tell a user which scene the image of fixed time amount length is, the image of an applicable part may be displayed on the reservation graphic display frame 210 as shown in creation and coincidence of the reservation image description dictionary 108 at drawing 2 (b). The attached information about the image transcription program by which the representation image was created, for example, the title of a program, the date recorded on videotape, start time, end time of a program, etc. are displayed on the attached information-display frame 201. When stopping the selection processing of a reservation image itself on the way, the termination carbon button 206 is operated.

[0019] The timed recording and reservation playback with an image are effective when reserving to the things (a serial drama, news, sport relay broadcast, etc.) by which the title of the same image is inserted in the program head. Moreover, the effectiveness can be demonstrated especially in the case

where the start time of a program is changed on account of a broadcasting station side after reservation registration.

[0020] Drawing 3 is drawing showing the structure of the attached information 300 on an image transcription image. The attached information 300 is associated and managed for every image transcription program saved at the storage 102. For example, if the image transcription image of 10 titles is saved, the attached information 300 is saved at each 10 title. the attached information 300 consist of auxiliary information 310 on others , such as a comment input in order that the whereabouts 309 (address) of the representation image management information for manage into a group the whereabouts 308 (address) of the image transcription image in the title 303 of a program , the date 304 recorded on videotape , the start time 305 of an image transcription and end time 306 , a channel 307 , and a storage 102 and a representation image and a user may make the contents of the image transcription image easier to understand .

[0021] It is this equipment, for example, if the program of the first time, such as a serial drama, is recorded on videotape once, since each information on an image transcription day (or day of the week), the start time of a program and end time, and a channel can refer to the aforementioned attached information, in the image timed recording or image reservation playback after the next time of the drama, a user does not need to input it anew.

[0022] Drawing 4 is drawing showing the structure of the representation image management information 400. The representation image management information 400 is the information for carrying out group management of the representation image for every program, and is associated and managed for every image transcription program saved like the attached information on an image transcription image at the storage 102. The case where there are n representation screens of a certain image transcription image is explained to an example. The whereabouts of the image transcription image with which the number and this information on the representation image registered are related etc. is recorded on the header information 401 which is equivalent to the head part of this information first. Then, the frame number 407 on the image transcription image related with the representation image for every (402-406) representation image and the whereabouts 408 (address) of a representation image are recorded. This information is referred to, when displaying a representation image list on a reservation image selection screen in image image transcription reservation and image reproduction reservation, or when displaying a representation image list in order to specify a playback starting position visually at the time of playback.

[0023] Drawing 5 is drawing showing the contents check screen 500 of reservation at the time of performing image timed recording and image reservation playback. Drawing 5 (a) is drawing showing the whole contents check screen 500 of reservation. This screen is displayed on the guidance display means 104.

[0024] It is the example which reservation information was displayed on the reservation information-display frame 501, and drawing 5 (a) summarized four pieces of reservation information on one screen, and was displayed. When four or more pieces of reservation information exists, by operating the advance carbon button 504 and retreat carbon button 505 grade, the reservation information-display frame 501 is slid virtually, and the reservation information to display is changed. If there is no problem in reservation information, a confirmation button 502 will be operated. When canceling reservation, the reservation information-display frame 501 with which reservation information to cancel is displayed is chosen, and the cancellation carbon button 503 is operated. The approach of selection should just push the reservation information-display frame 501 of arbitration directly with a mouse. A user is told about the selected reservation information-display frame 501 having been temporarily chosen with the means of a foreground color changing.

[0025] Drawing 5 (b) is drawing showing the detail of the reservation information-display frame 501. A reservation image is displayed on the representation image frame 506. A user can input texts, such as a program name, into arbitration at a title 507. Although a channel 508, a date 509, start time 510, and end time 511 can also be directly set up by the user, the contents of the attached information 300 related with the image referred to as a default when a reservation image was chosen recorded on videotape are set up.

[0026] Image transcription initiation / termination margin 512 specifies in the time amount range of which an image coincidence comparison is carried out approximately by making start time of an

image transcription into criteria time of day. When the image which started the image coincidence comparison from 30 quotas of start time 510, and was temporarily in agreement by the reasons of sudden program modification etc. when a margin value was made into **30 minutes as an example does not appear, it means stopping an image coincidence comparison after [of start time 510] 30 minutes. Image transcription initiation / termination margin 512 is divided into an initiation margin and a termination margin, and you may make it set it up according to an individual, respectively.

[0027] This reservation information sets one class of image timed recording, image reservation playback, the timed recording (the usual timed recording by time assignment) that does not use a reservation image, and the reservation playback (the usual reservation playback by time assignment) which does not use a reservation image to the class 513 of an image transcription/playback. The auxiliary information-display frame 514 is a part which inputs a comment for a user to make the contents of reservation easier to understand etc. if needed. Of course, it is satisfactory even if blank, if unnecessary.

[0028] When this reservation information is registered by actuation of a confirmation button 502, it is saved as reservation information at a storage 102.

[0029] Drawing 6 is drawing showing the structure of the reservation information 600 saved at a storage 102. The item of one piece of reservation information 601 consists of a title 603, a date 604, start time 605, end time 606, a channel 607, image transcription initiation / termination margin 608, the class 609 of an image transcription/playback, the output destination change 610 (address on a storage 102) of an image transcription image, the whereabouts 611 (address on a storage 102) of a reservation image dictionary, the whereabouts 612 (address on a storage 102) of image transcription image attached information, a head frame number 612 of a reservation image, and auxiliary information 613 on other.

[0030] In this equipment, when one or more pieces of reservation information 600 is registered, the current time and start time 605 of a timer 103 are always compared, and timed recording or reservation playback is performed from the time of current time reaching at start time 605 according to the contents of a setting of the reservation information 600. In addition, it cannot be overemphasized that the time of day when the set point of image transcription initiation / termination margin 608 was taken into consideration, and the current time of a timer 103 are compared with start time 605 by the case of image timed recording or image reservation playback.

[0031] Henceforth, a flow chart explains the procedure for the case where image timed recording in this equipment is carried out to an example.

[0032] Drawing 7 is a flow chart which shows the registration procedure of the image timed recording which used the image reservation screen 200 and the contents check screen 500 of reservation. First, the representation image [finishing / creation] which is related to the programs (for example, serial drama etc.) which wish image transcription reservation is read, and it displays on the guidance display means 104 in the form of the image reservation screen 200 (700).

[0033] Next, one scene which wants to start an image transcription is chosen from representation images (701). For example, although the title scene of a drama etc. is imagined easily, of course, it is not limited to this. Then, when interruption of reservation processing is chosen by actuation of a user, this reservation screen is ended. In continuation, the selected reservation image scene judges whether it is decision (703). If it is not decision, processing 703 will be repeated from the processing 701 of this drawing. When a reservation image scene is decided, the reservation image description dictionary is drawn up (704) and creation and a display of image transcription reservation information are performed with reference to the attached information on the image transcription image related with the representation image (706). (705) The image transcription reservation information 600 is displayed using the contents check screen 500 of reservation.

[0034] Here, about the contents of the displayed reservation information, if there is need, a user can edit (not shown). When cancellation of reservation information is operated, the corresponding image transcription reservation information is deleted from a storage 102 (711). (707) When image transcription reservation information is decided, the image transcription reservation information 600 is saved at a storage 102 (709), and the monitor of the reservation start time by the timer is operated (710).

[0035] About the concrete creation approach of the reservation image description dictionary 108, it

is Japanese Patent Application No. 9-126704. Although technique given in a number is used, the outline is explained briefly below.

[0036] Drawing 8 is drawing showing the concept of the creation approach of the reservation image description dictionary 108. First, characteristic quantity 807 is extracted from every sheet of Screen 800 which constitutes a reservation image as shown in drawing 8 (a), respectively. The characteristic quantity 807 at this time uses the color average of an image. It asks for a color average about each component of an RGB system of color representation, it makes these three a group, and let it be the characteristic quantity 807 of the image of one sheet.

[0037] Next, the data compression (808-811) by run length compression is performed to the sequence of the extracted characteristic quantity 807. When, as for an image, the redundancy of the direction of time amount makes the above color averages characteristic quantity 807 very high especially, the almost same value will continue. The section (812-815) when the characteristic quantity 807 it can be considered that is the same value continues is summarized to one, and the table which carried out the frame number 819 (801,804,805,806 is specifically pointed out) of the characteristic quantity 818 and head at the group to every [as shown in drawing 8 (b)] section number 817 (812-815 are specifically pointed out) is created.

[0038] It is shown that characteristic quantity A' in drawing is the characteristic quantity it can consider that is the same to the characteristic quantity A of the head frame 801. The same is said of the relation of the characteristic quantity B in drawing, B', and C and C'. The judgment of whether to be able to consider that characteristic quantity is the same is based on the absolute value of a difference being less than a threshold set up independently in all three values of the color average RGB of an image.

[0039] Drawing 9 is a flow chart which shows an example of a procedure until it results [from the standby condition of the reservation in image timed recording] in image transcription initiation. In the example of drawing, the reservation information 600 on a certain image timed recording shall already be registered. First, if it judges whether the current time of a timer 103 reached at the comparison start time of the image description dictionary with reference to the information registered into the reservation information 600 and has not reached yet at start time, a judgment is repeated until start time comes (900).

[0040] When interruption of timed recording is chosen by the user at this time, the time-of-day monitor by the timer 103 is interrupted, and it escapes from image timed recording processing (901). When the current time of a timer 103 reaches at the comparison start time of the image description dictionary, initialization of the input image description dictionary and read-out of the (902) reservation image description dictionary are performed (903). At this time, it is not started but an image transcription still performs incorporation (904) of an input image, creation (905) of the input image description dictionary, and the comparison (906) of the input image description dictionary and the reservation image description dictionary using the technique explained by drawing 8. The comparison test of both image description dictionaries is carried out (907), and processing 907 is repeated from processing 904 until the image description dictionary is in agreement.

[0041] However, when the current time of a timer 103 exceeds start time + image transcription initiation / termination margin of timed recording, image timed recording processing is interrupted (915). (914) When both image description dictionaries are in agreement, it is judged as that whose input image and reservation image of television broadcasting corresponded, an image transcription is started from the time (908), and creation of a representation image is started to coincidence (909). Henceforth, image transcription and representation image creation are continued till the end time of an image transcription (910). When it reaches at end time, creation of an image transcription and a representation image is stopped (912). (911) Finally the attached information 300 on an image transcription image is saved at a storage 102. Although this flow chart explained the example of image timed recording, in image reservation playback, except for the part placed and replaced with regeneration, the procedure of processing has the same image transcription processing.

[0042] Drawing 10 is drawing showing one example of the image transcription regenerative apparatus of this invention. Image transcription regenerative-apparatus 1000 (100) the very thing uses the personal computer (PC) which consisted of a hard disk, CRT, a keyboard, a mouse, etc. It connects with the digital TV broadcast 1006 and the terrestrial TV broadcast 1008 grade through

IRD1007 (Integrated Receiver Decoder), and the image transcription regenerative apparatus 1000 (100) views and listens to the receiving image and image transcription image of a program by the television monitor 1003. Moreover, it can be equal also to a prolonged image image transcription, and connects with the DVD-RAM drive 1004 grade with big memory capacity as removable external storage. Since a user saves some image transcription images as an original library, external storage can be used.

[0043] Furthermore, for example through the networks 1002, such as the Internet, the homepage by which the information on TV program guide etc. is carried is accessed, and the timetable of a TV program is acquired. By incorporating the information on the incorporated timetable to this equipment, it is utilizable as a database of program retrieval. For example, although the broadcast time of a program was an important keyword in timetable program retrieval of the conventional magazine etc., a title, a drama performer, etc. of a program can offer the search method of a program usable as it is for the keyword which the user imagined with this equipment.

[0044]

[Effect of the Invention] Assignment of the reservation image for which it wishes according to this invention, and the program reservation interface which can carry out reconfirmation easily, The image of the part of the arbitration of the program already recorded on videotape by registering as reservation information besides information, such as time of the program for which offers the practice which can reduce the processing loads in the coincidence comparison of an image sharply, and it wishes further, a day of the week, and a channel The equipment which can start an image transcription or playback from the time of the image of the same scene as the reserved image flowing can be offered.

[0045] Moreover, by preparing a time-of-day margin as reservation information at the start time and end time of reservation, even when a reservation image does not appear, it should lead to automatic interruption of comparison processing of an image. Furthermore, it becomes unnecessary to always carry out comparison processing with a reservation image and the real image of broadcast, and can contribute also to power-saving of equipment.

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CLAIMS

[Claim(s)]

[Claim 1] The image input interface containing TV tuner for inputting the input signal of television broadcasting, The video output interface connected to TV monitor etc., and the image transcription control means which controls image transcription initiation of the program of television broadcasting, termination, etc., A representation image creation means to create a list of the representation image which consists of a set of the change of the image cut to the image transcription and coincidence of a program, The playback control means which controls playback of the program which television broadcasting reproduced or recorded on videotape, The playback tab-control-specification interface for determining the playback location of an image transcription image visually using a representation image list, The program reservation interface which reserves the image transcription of a program, reproductive initiation, and termination according to information, such as a date specified by a user, time amount, a channel, and a reservation image, A reservation image conversion means to change the image of a certain predetermined time length which specified for the timed recording using an image of a user into the information which expresses the description of an image using a predetermined approach, Changing the input image of the program by which current televising is carried out into the information which expresses the description of an image to real time using a predetermined approach The image description dictionary comparison means about which CPU is told when both sides are in agreement and do as compared with the information showing the description of the aforementioned reservation image, The reservation image description information storage means for storing temporarily the information which shows the description of a reservation image, An are recording means to record the reservation information on the image recorded on videotape, the adjunctive information relevant to it and a representation image, an image transcription, or playback, the reservation image description dictionary, etc., The image transcription regenerative apparatus characterized by constituting from a guidance display means for displaying the actuation screen of these equipments, such as a representation image list display, and a CPU which controls these whole.

[Claim 2] In equipment according to claim 1, the image transcription and playback by reservation With the broadcast day of the program for which it wishes, a day of the week, program start time, program end time, and information, such as a channel The image transcription regenerative apparatus which registers the time-of-day margin to the start time and end time of a program, and the image of the part of the arbitration of the program already recorded on videotape as reservation information, and is characterized by carrying out initiation of an image transcription, or reproductive initiation from the time of the image of the same scene as the reserved image flowing.

[Claim 3] The broadcast day of the program according to claim 2 for which it wishes, a day of the week, program start time, program end time, and information, such as a channel, are an image transcription regenerative apparatus characterized by being the information acquired with reference to the reservation information recorded on the occasion of the last program image transcription.

[Claim 4] It is the image transcription regenerative apparatus characterized by starting from the time of day when only the start time margin went back before on the basis of the broadcast start time of a program when the comparison with a reservation image and the real image of broadcast is beforehand set up in equipment according to claim 1.

[Claim 5] It is the image transcription regenerative apparatus characterized by carrying out

termination of an image transcription or playback according [on equipment according to claim 1 and] to reservation at the time of the time of day when only the part of the program time amount length led from the program start time and program end time of the reservation information recorded from the time of day which actually started the image transcription on the occasion of the last program image transcription passed.

[Claim 6] It is the image transcription regenerative apparatus characterized by carrying out when time of day passes by the end time margin on the basis of the broadcast end time of the program set up beforehand when, as for interruption of the comparison with a reservation image and the real image of broadcast, a user cancels reservation intentionally in equipment according to claim 1.

[Claim 7] The image transcription regenerative apparatus characterized by saving with the information which created the image of the scene as a representation image by detecting at least one or more changes of the scene which constitutes a program in image transcription actuation and coincidence of a program in equipment according to claim 1, and associated each representation image and the time playback location of the program recorded on videotape.

[Claim 8] The image transcription regenerative apparatus characterized by the ability to start playback from the playback location of the image transcription image which has the playback tab-control-specification interface which can choose one of the arbitration from the representation images of an image transcription image saved at the storage in equipment according to claim 1, and is related with the representation image.

[Claim 9] The image transcription regenerative apparatus which has the program reservation interface which can choose one of the arbitration from the representation images of a program saved at the storage in equipment according to claim 1, and is characterized by the image followed from the scene of the selected representation image to the scene after predetermined time being a reservation image of image transcription initiation or playback initiation.

[Claim 10] In equipment according to claim 1 the image description dictionary comparison means The information which compressed the characteristic quantity which evaluated the color information on each frame image which constitutes a reservation image with a reservation image conversion means as characteristic quantity of an image using the predetermined algorithm, and extracted it further in a certain time series unit, The image transcription regenerative apparatus characterized by controlling to compare the condensed information of the characteristic quantity extracted on real time about each frame image which constitutes the program by which current broadcast is carried out using the same technique.

[Claim 11] The image transcription regenerative apparatus characterized by constituting in a nucleus the personal computer which consisted of a hard disk, CRT, a keyboard, a mouse, etc. in equipment according to claim 1.

[Claim 12] The television monitor for connect with digital TV broadcast , terrestrial TV broadcast , etc. through IRD (IntegratedReceiver Decoder) in the system which used equipment according to claim 7 as the nucleus , connect with networks , such as the Internet , in order to acquire information , such as TV program guide and a timetable of a program , further , and view and listen to an image , the image transcription regenerative apparatus characterize by be the configuration equipped with the DVD-RAM drive as mass external storage .

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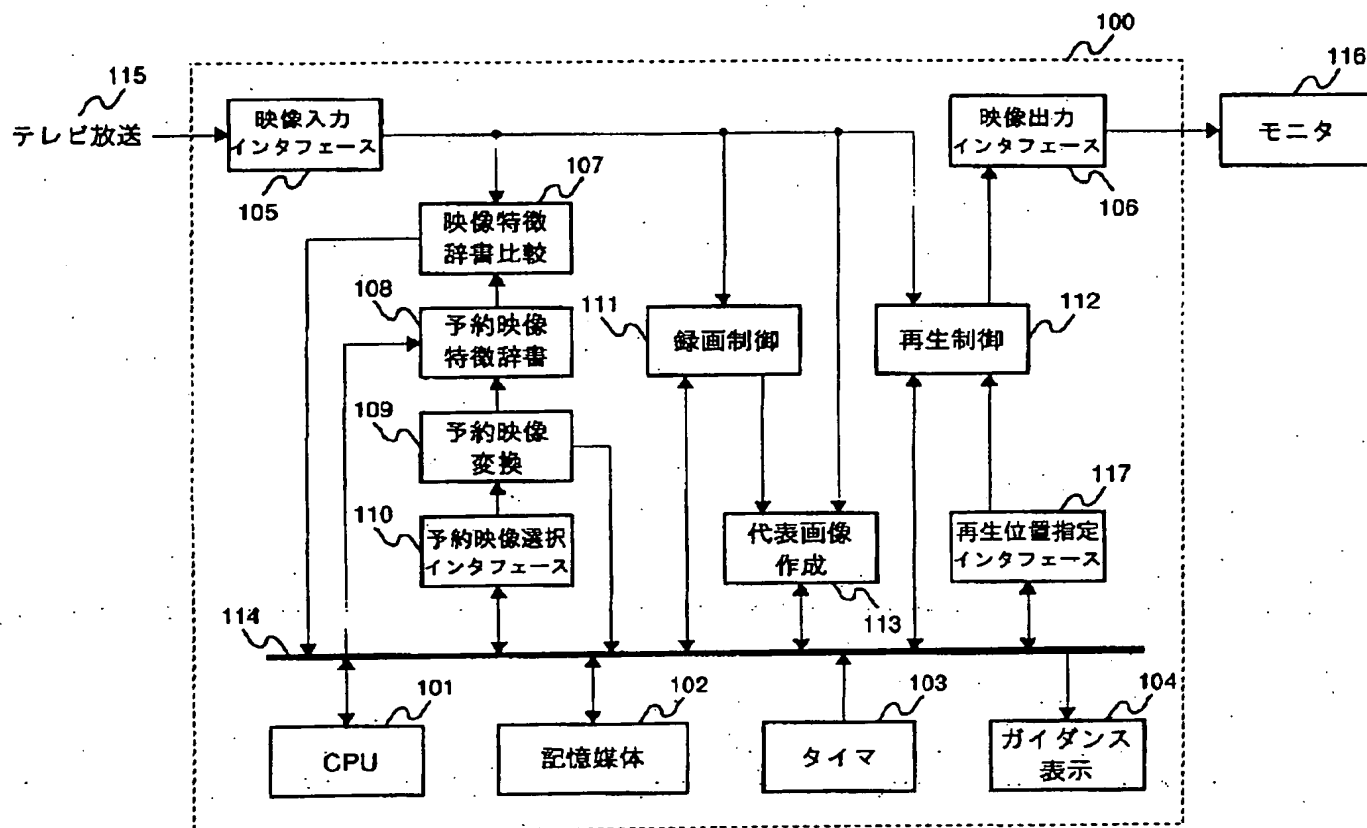
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DRAWINGS

[Drawing 1]

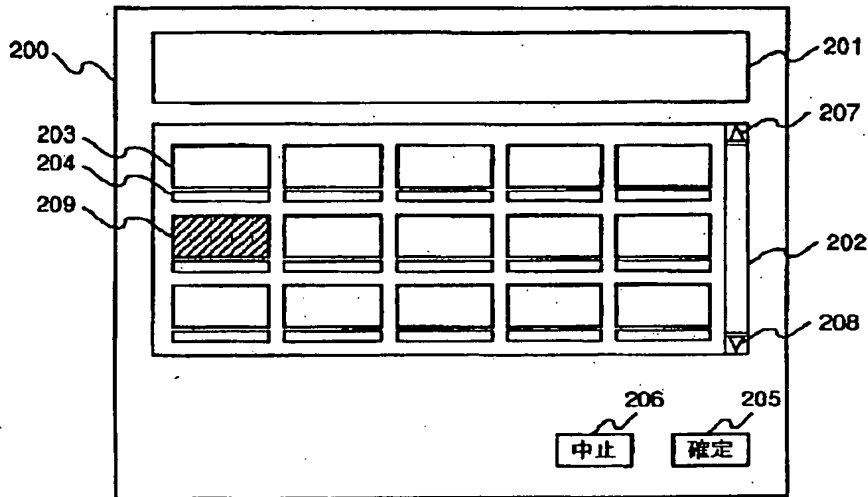
図1



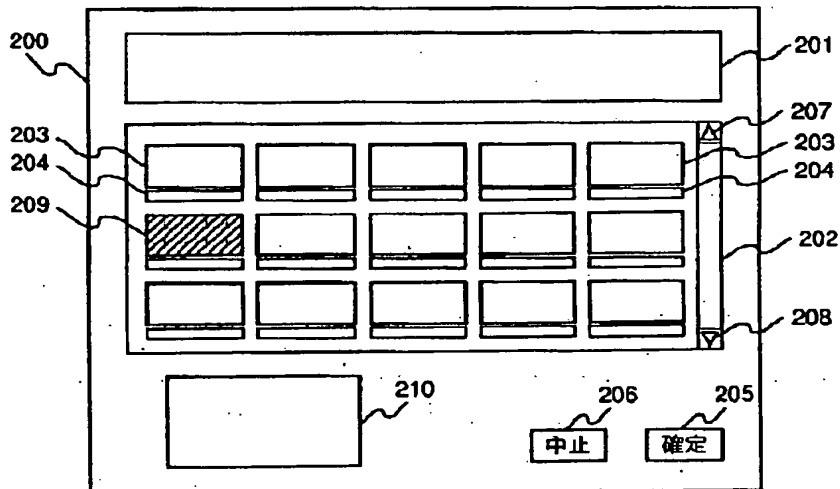
[Drawing 2]

図2

(a)



(b)



[Drawing 3]

図3

		300	
301	付 属 情 報 1	タイトル	303
		日付け	304
		開始時間	305
		終了時間	306
		チャンネル	307
		録画映像の所在	308
		代表画像管理情報の所在	309
		その他の補助情報	310
302	付 属 情 報 2	タイトル	311
		日付け	312
		開始時間	313
		終了時間	314
		チャンネル	315
		録画映像の所在	316
		代表画像管理情報の所在	317
		その他の補助情報	318
⋮		⋮	

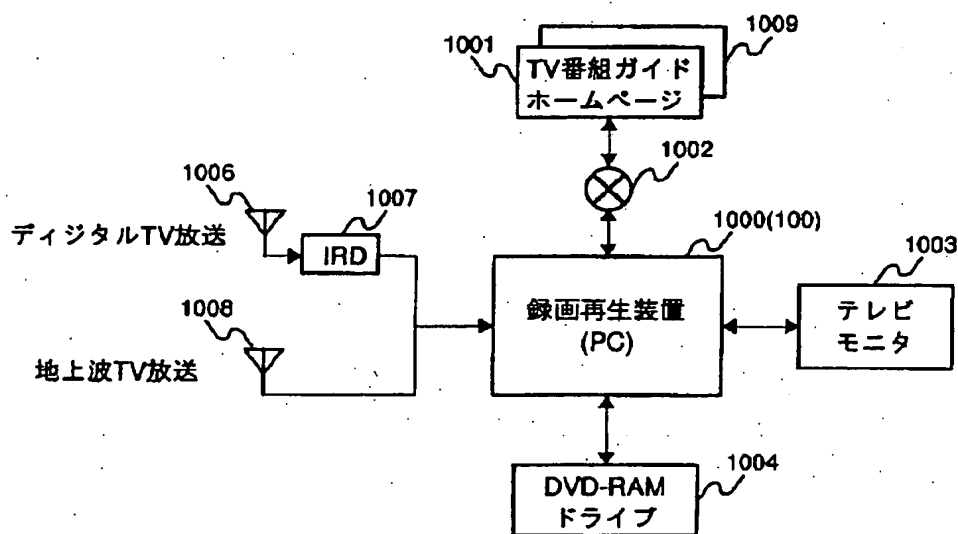
[Drawing 4]

図4

400		
ヘッダ情報		
402	代表 画像1	代表画像1のフレーム番号
		代表画像1の所在
403	代表 画像2	代表画像2のフレーム番号
		代表画像2の所在
404	代表 画像3	代表画像3のフレーム番号
		代表画像3の所在
405	代表 画像4	代表画像4のフレーム番号
		代表画像4の所在
406	⋮	⋮
	代表 画像n	代表画像nのフレーム番号
		代表画像nの所在

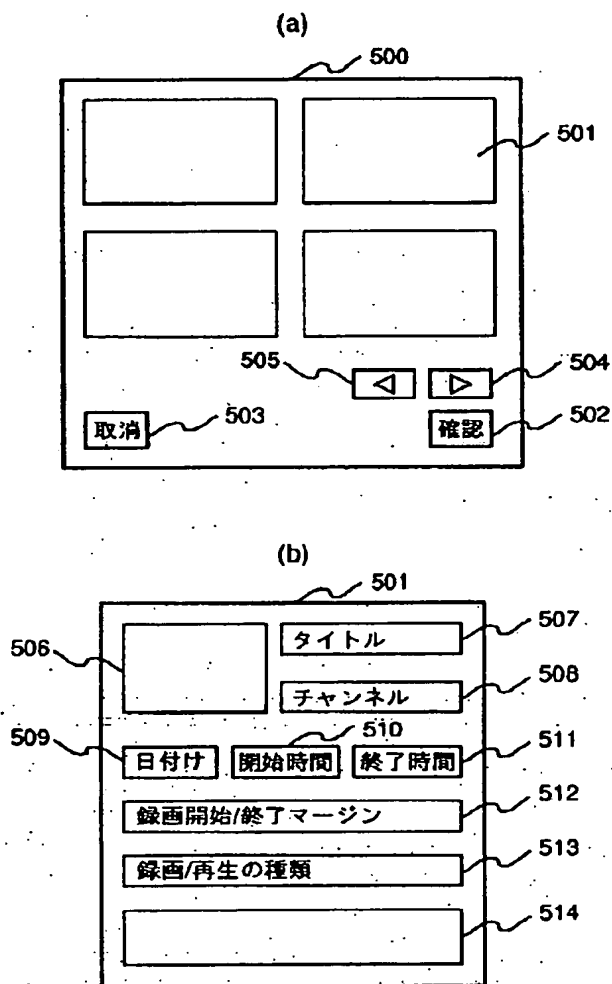
[Drawing 10]

図10



[Drawing 5]

図5



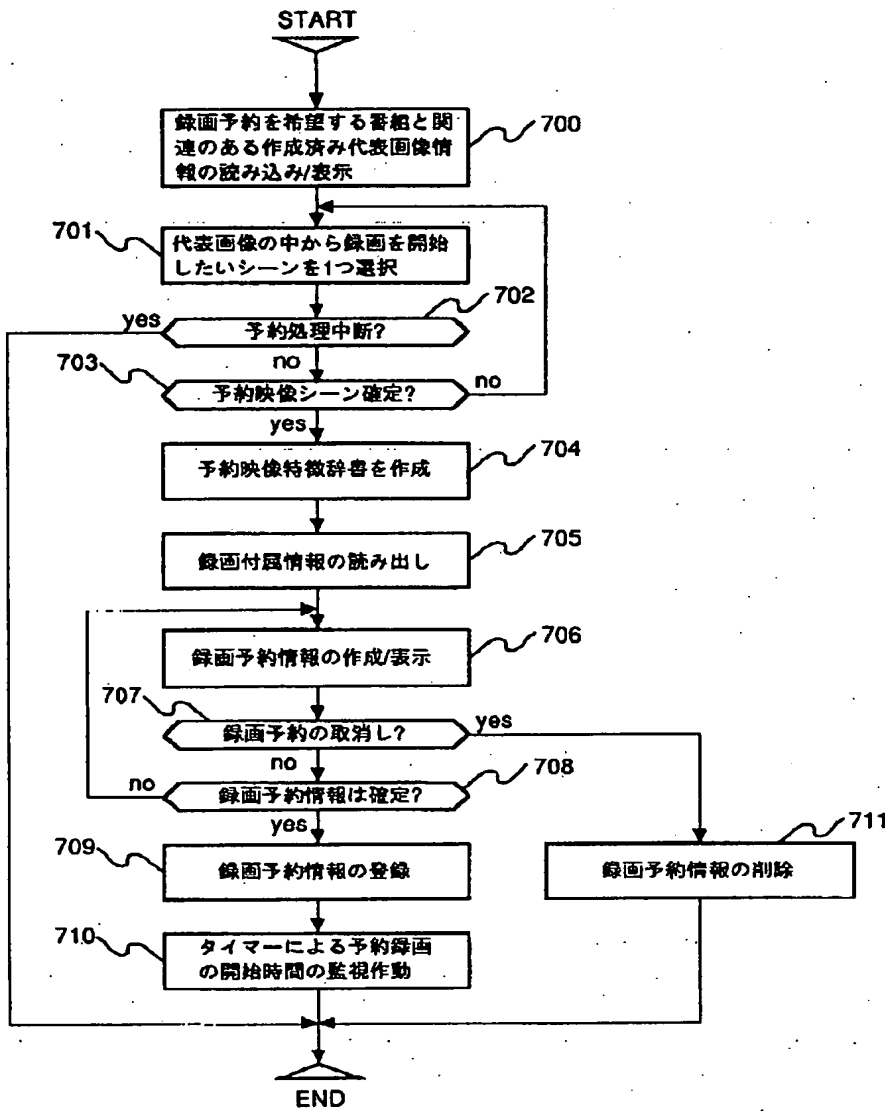
[Drawing 6]

図6

601 予約情報 1		600	タイトル	603
			日付け	604
			開始時間	605
			終了時間	606
			チャンネル	607
			録画開始/終了マージン	608
			録画/再生の種類	609
			録画映像の出力先	610
			予約映像辞書の所在	611
			録画映像付属情報の所在	612
			予約映像の先頭フレーム番号	613
			その他の補助情報	614
			タイトル	615
			日付け	616
602 予約情報 2			開始時間	617
			終了時間	618
			チャンネル	619
			録画開始/終了マージン	620
			録画/再生の種類	621
			録画映像の出力先	613
			予約映像辞書の所在	614
			録画映像付属情報の所在	615
			予約映像の先頭フレーム番号	616
			その他の補助情報	617
⋮			⋮	

[Drawing 7]

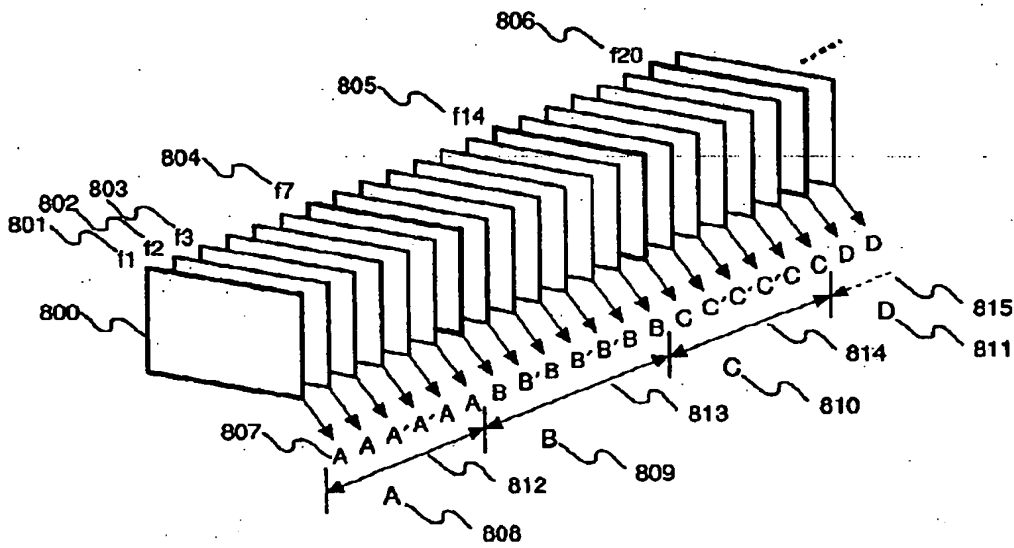
図7



[Drawing 8]

図8

(a)

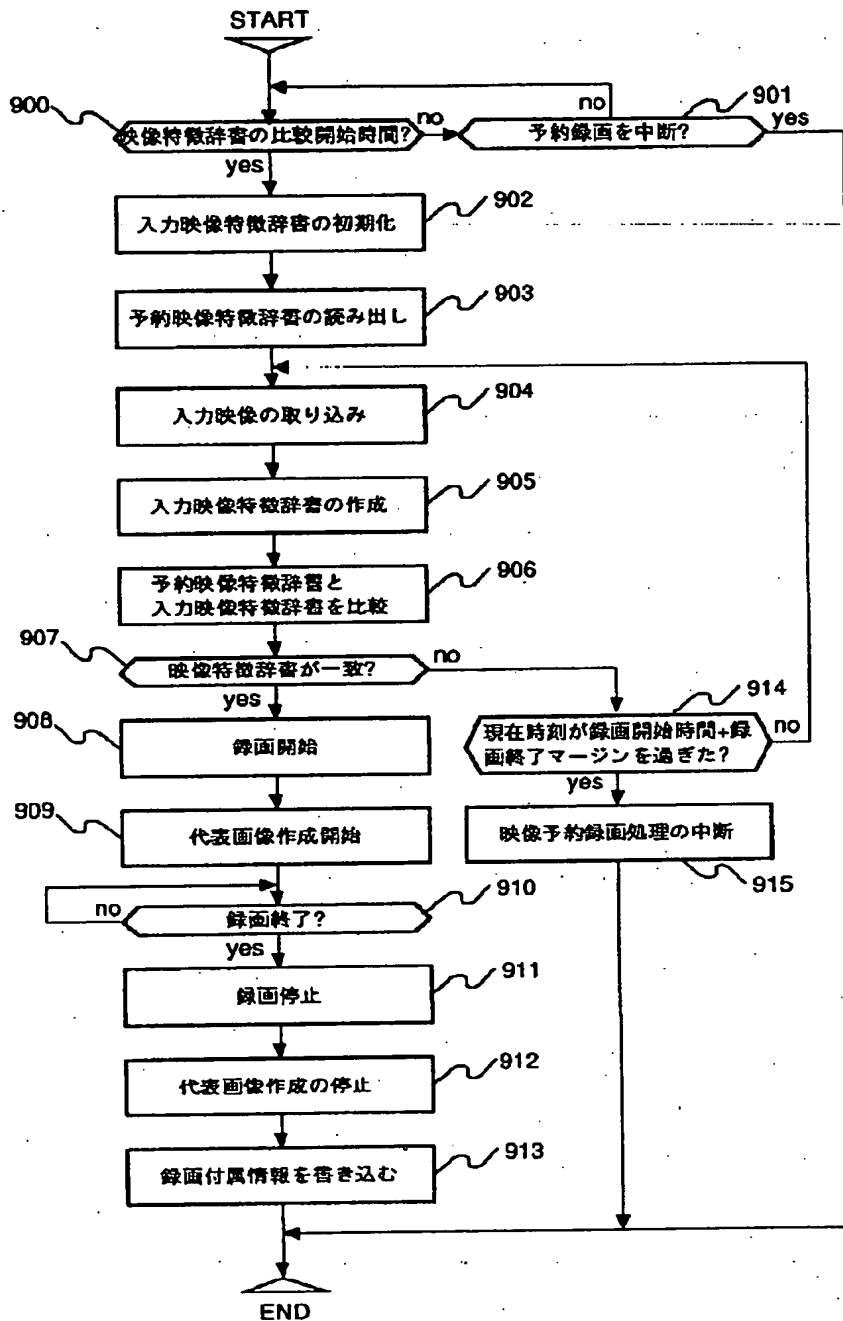


(b)

816	817	818	819
812	区間番号	特徴量	フレーム番号
813	1	A	f1
814	2	B	f7
815	3	C	f14
	4	D	f20
	⋮	⋮	⋮

[Drawing 9]

図9



[Translation done.]